

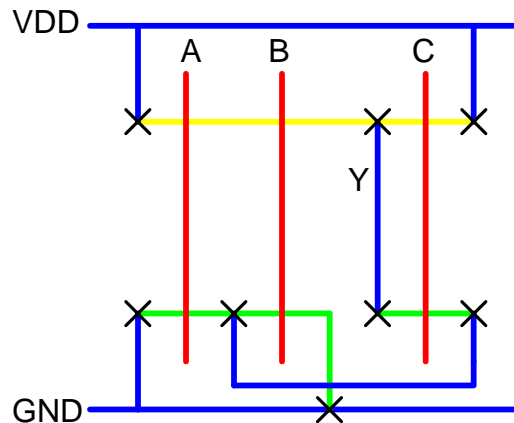
Introduction to CMOS VLSI Design (E158)

Problem Set 1

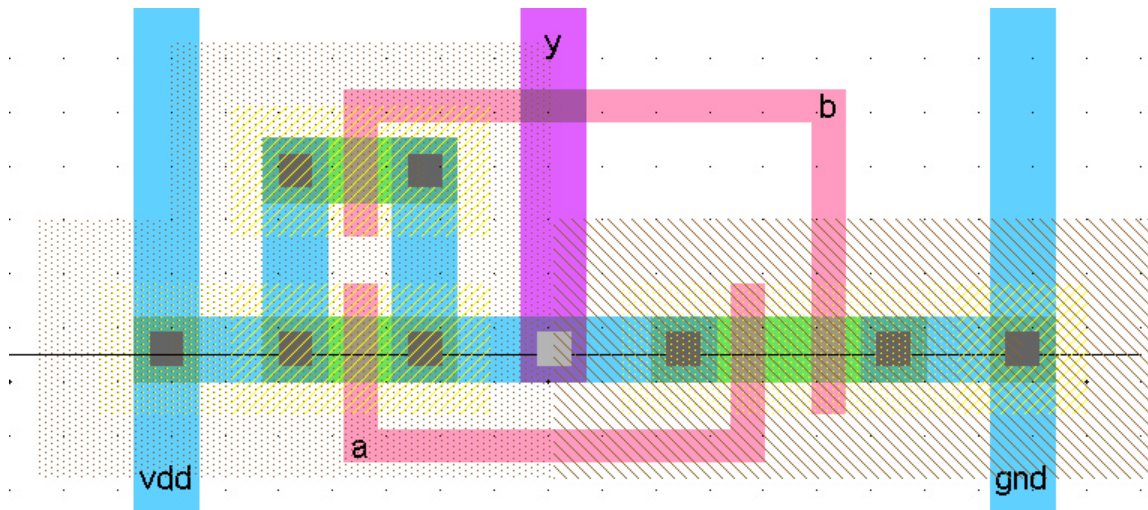


1. Gate Design

- Sketch a stick diagram of an inverter. Please use colored pencils or pens for your diagram.
- Sketch a stick diagram of a 3-input NOR gate.
- Give a Boolean equation for the logic function $Y = f(A, B, C)$ computed by the gate shown in the stick diagram below.



2. Cross Section



Draw a cross-sectional view of this nand gate for a cut taken along the black line. Label your sketch. Assume you are using a process with a p-type substrate and an N-well.

3. Survey

Complete the attached survey for the Mellon Intercultural Learning Through Technology Project.

4. Web Page

Create your personal web page for E158. We will use the web pages so that everyone at Mudd and at METU can get to know each other. You will also post files on your web page from your final project.

Look in /Igor/Courses/Eng/E158/www. You will find a file named index.html and a bunch of directories. Copy index.html to your directory. Open it in WordPad and edit it. Add a paragraph about you and your interests that would help somebody else get to know you. You may add other links as you see fit.

If you are not familiar with HTML, you may find a quick reference about HTML tags at <http://archive.ncsa.uiuc.edu/General/Internet/WWW/index.html>

Go to the class web page and click on your link. Check that it brings up your personal web page properly.

5. Time

Please indicate how many hours you spent on this problem set. This will not affect your grade, but will be helpful for calibrating the workload for the future.